STATE OF BRUNEI

ANNUAL REPORT

ON THE

MEDICAL DEPARTMENT

FOR THE YEAR

1938

BY

O. E. FISHER,
Medical Officer, Brunei.

Published by Authority

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extent to the rest of the population and the Medical Officer goes so far as to say that, in his opinion, this is the most important single cause of ill health in the State. No welfare work is yet possible outside the Brunei area, but a native girl is being sent to Singapore to be trained as a Health Nurse in order to set up a similar centre at Kuala Belait. A very satisfactory feature of the maternity work being done is that 540 births were attended by the Department in 1938 and, for the second year in succession, there were no maternal deaths among this group.

There is obviously great need for suitable health education in this small State of 37,000 persons, but the staff is limited (p.9) and good work is being done within the means which are available.

This report with its map and photographs again gives a clear picture of conditions in Brunei and of the efforts that are being made with a limited staff to effect improvement in different directions. The Medical Officer in charge can be commended on the results achieved up to date and, more especially in view of the great need of the community, Brunei can be congratulated on the establishment of its first child welfare centre. We might express the hope that, in view of the clear need for it, this good work may be pressed on, and supplemented by further measures of Education.

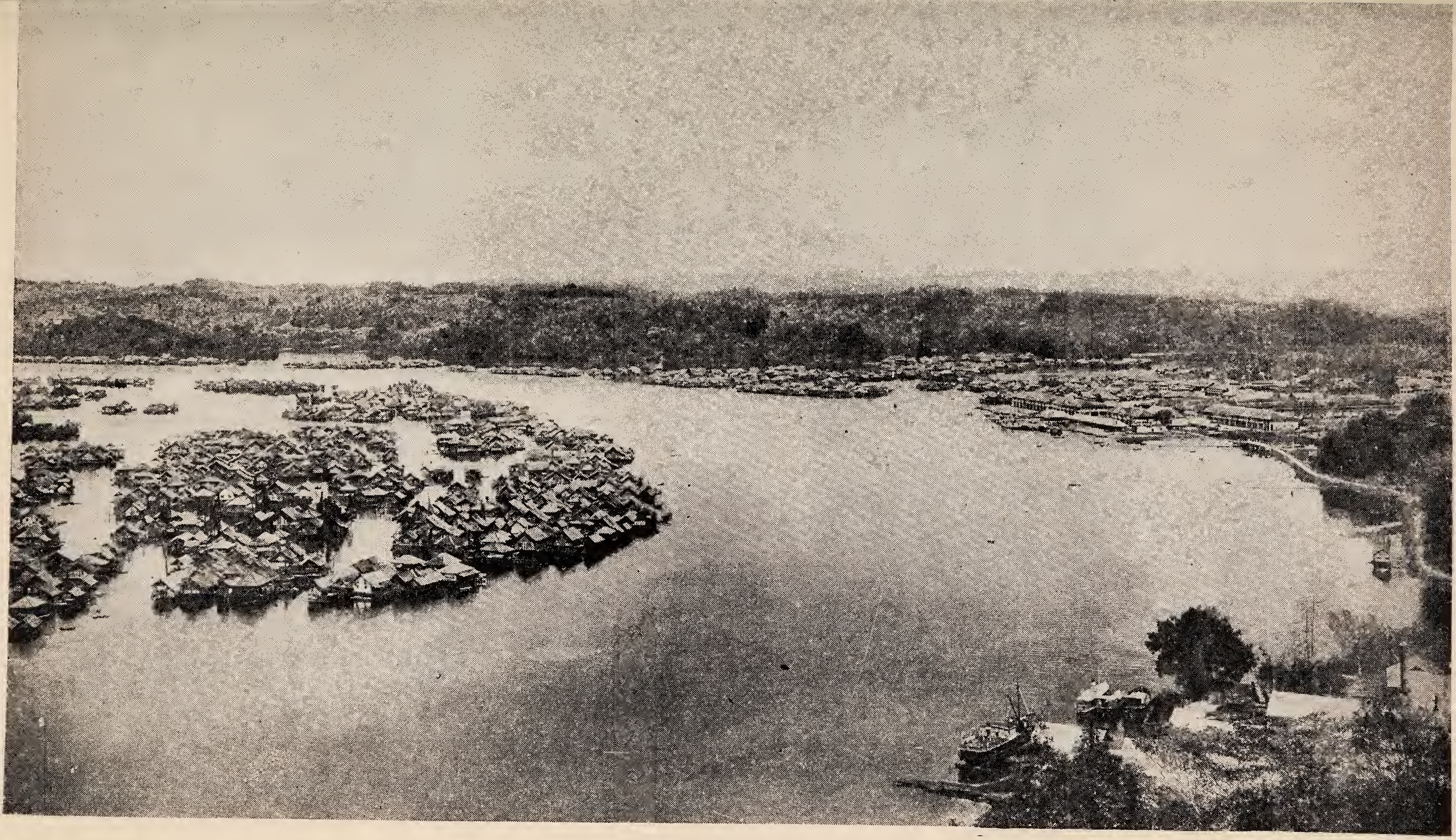
From the date of this Report it is obvious that at the time that it was written recommendation of the Committee regarding the appointment of a Health Sister could not then have been received in Brunei, the despatch from the Colonial Office being dated 28/3/39.

Notes on the Annual Medical Report for Brunei, 1938.

The photograph at the beginning of the report illustrates the river town of Brunei outside the Sanitary Board area of Brunei Town. This depicts what used to be the general method of living all over Brunei, although more and more people are now settling on the land. Such seaside or river colonies, both in Brunei and in Malaya, where these formerly housed large sections of the population, have usually been healthy areas. The only large urban centres of population are at Brunei Town and at Kuala Belait, which is the centre of a rapidly expanding oilfield. At the latter place the British Malayan Petroleum Company have a well equipped hospital with a Medical Officer, and by arrangement with the Company the services of this hospital are available to the general public: But outside these centres the population is mostly served by travelling dispensaries, the dressers travelling for the most part by river; and so the whole population receives medical attention of some sort. There is a good description of housing conditions among the Brunei people as a whole in Section VI.

The otherphotograph in the report illustrates the new child welfare centre and maternity clinic which was opened by the Sultan during the year, and to celebrate this important event a successful Baby Show was held. The infant mortality rate, although again considerably lower than in the previous year, remains at 210 per mille, and the Medical Officer draws attention to conditions as regards the care of infants in Brunei, which are extremely unsatisfactory. These unsatisfactory conditions, so far as they relate to malnutrition, also apply to a considerable

extent



BRUNEI TOWN

ANNUAL REPORT ON THE MEDICAL DEPARTMENT, BRUNEI FOR THE YEAR 1938

I.—INTRODUCTION

Brunei is a small sparsely populated State on the north-west coast of Borneo some 2,226 square miles in area. It has a population of about 35,000 inhabitants.

The indigenous population is made up of a variety of races, *viz.* Brunei Malays, Kedayans, Tutongs, Belaits, Dusuns, Muruts, and Dayaks. The Bruneis, which are numerically the largest race, are chiefly fishermen and live in the river "kampongs" near to the sea. The other races practice agriculture and are chiefly found up country. The Chinese are the only alien race found in any number.

The Sultan of Brunei is the ruler of the State. By an agreement made in 1906 a British Resident was accepted whose advice must be asked and acted upon on all questions save those concerning the Mohammedan religion.

The only large centres of population are at Brunei Town, the capital, with about 12,000 inhabitants, and at Kuala Belait, which is the centre of a rapidly expanding oilfield, and which has a population of about 6,000. Motor transport is possible between the two centres partly by road and partly by beach. Elsewhere rivers afford the chief means of transport.

The general health of the State during the year was good. A mild outbreak of diphtheria occurred in Kuala Belait during the latter part of the year, but this was the only epidemic of note.

II.—ADMINISTRATION

The Medical and Health administration of the State is in the hands of one officer who is a member of the Malayan Medical Service seconded to Brunei. Dr. O. E. FISHER held that post throughout the year.

The full establishment of the Department is given at Appendix *I.* In addition a sanitary inspector is on the establishment of the Assistant Resident at Kuala Belai. The following additions were made to the staff during the year—one staff nurse, two probationers nurses and one Grade II dresser.

Revenue collected by the Department in 1938 was $3,088.93 and expenditure was $47,466.45 compared with figures of $3,172.30 and $44,452.05 for 1937. The expenditure for 1937 contained a sum of $2,729.08 for conservancy in the Sanitary Board area, Brunei, and this expenditure is no longer included in the Medical Estimates. In addition $3,108.62 were expended on health work (anti malarial work and sanitary inspector's salary) at Kuala Belait.

There was also a capital expenditure of $13,475.96 on buildings etc. during the year bringing the total expenditure on Medical and Health works up to $64,051.03 which represents 8.91 per cent of the total State expenditure.

III.—HOSPITAL AND DISPENSARIES

In Brunei Town there is a small hospital with a well equipped theatre, laboratory and out patient department. There is at present no X'ray apparatus and cases requiring X'ray aid have to be sent to the Miri Hospital in Sarawak.

During the year male and female second class wards, a labour room, an isolation ward and a leper ward were completed. As a result of these additions the accommodation of the hospital was increased from 30 to 48 beds.

There are two small dispensaries, each with a dresser in charge, in outlying parts of the State. In Kuala Belait the British Malayan Petroleum Company have a well equipped hospital in charge of a Medical Officer, and by an agreement between the Company and Government the services of this hospital are available to the public. The cost to Government for these services was $3,587.93 in 1938.

The rest of the population has to rely on travelling dispensaries for medical attention. There are three travelling dressers operating from Brunei, Tutong and Temburong. The dressers travel by road, footpaths and especially by river to all parts of the State so that it is possible for the whole population to receive medical aid of a sort.

During the year 614 cases were admitted to Government hospitals and 19,435 cases were treated as out-patients compared with figures of 612 and 15,476 respectively for 1937.

Details of hospital attendances, surgical operations, etc. are given in Appendix *VIII, IX* and *X*.

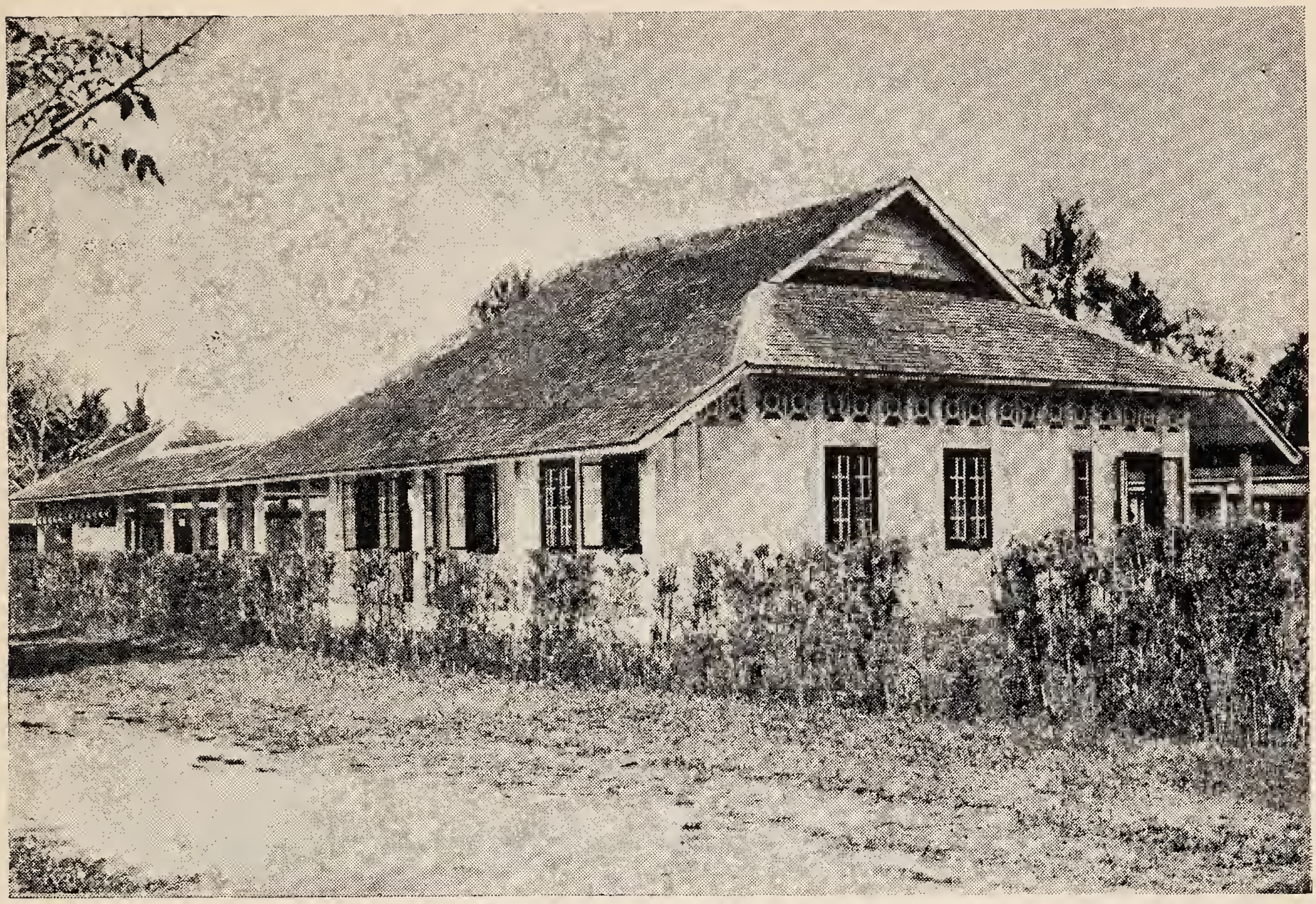
IV.—CHILD WELFARE AND MATERNITY

In connection with the above work an important event took place in December when His Highness the Sultan of Brunei opened the new Child Welfare and Maternity Clinic. Prior to the opening of the building this work was carried out in a small room in the hospital. The new building incorporates a waiting room, consulting room, dressing room and feeding ward. With the engagement of extra officers during the year it is now possible to employ a whole time staff in the Centre consisting of one health nurse, one probationer nurse, two midwives and one attendant.

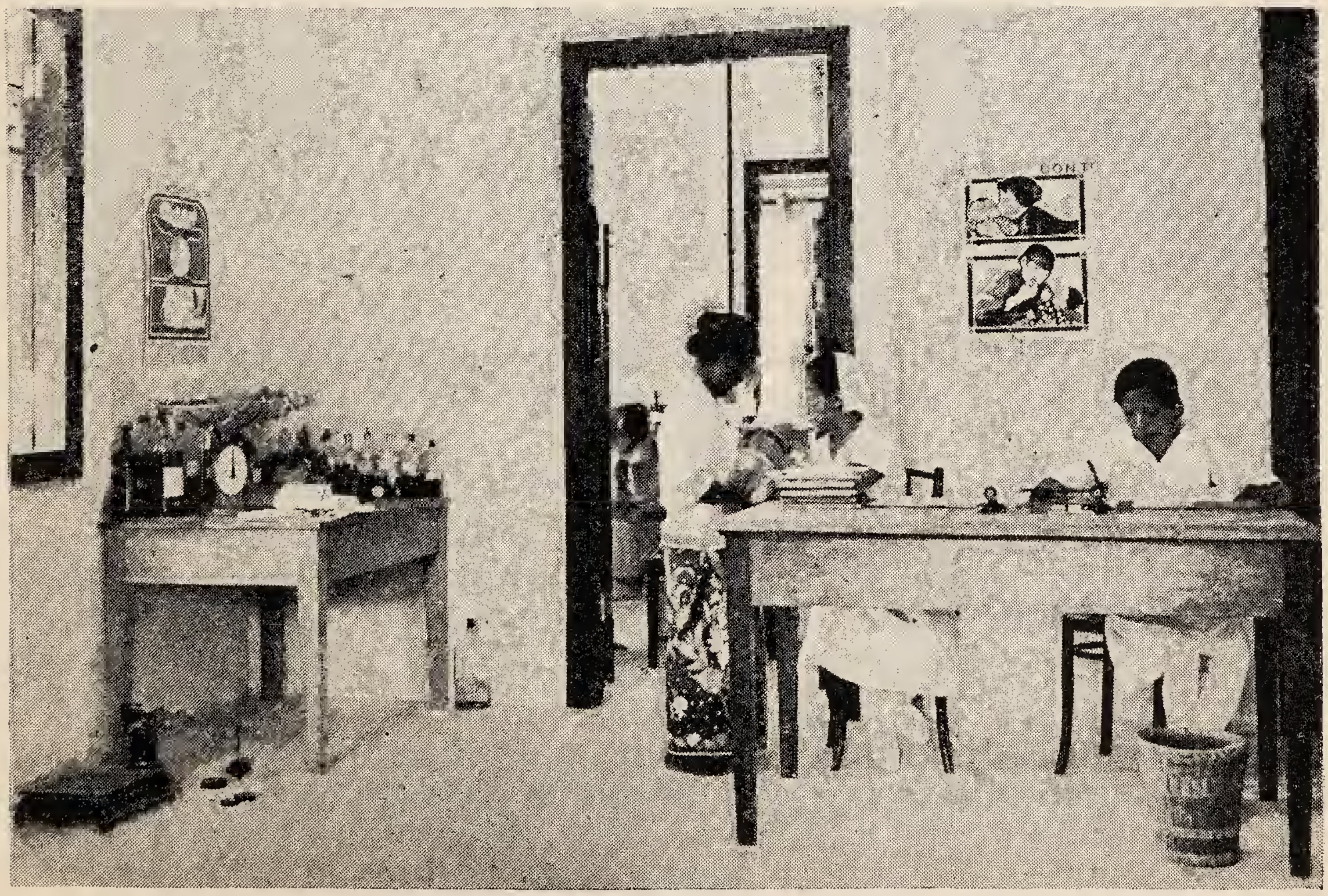
One thousand nine hundred and fifty seven infants attended the Clinic in 1938 compared with 1,872 in 1937.

To celebrate the opening of the Clinic a Baby Show was held, which proved to be a great success. About one hundred and twenty babies—all regular attenders at the Clinic—competed and His Highness the Sultan graciously consented to distribute prizes.

The infant mortality rate was 210 per mille live births compared with 219 per mille in 1937. Although this figure is well below the



INFANT WELFARE CENTRE



AT WORK AT THE CENTRE

average of recent years it is still extremely high, and as large fluctuations are to be expected in such a small population it would be rash to draw any conclusions from the comparatively low rate during 1938. The infant mortality rate during the last five years has been as follows:—

Year		*Total Births*	*Infant mortality rate*
1934	..	1306	355 per mille live birth
1935	..	1475	210 ,, ,, ,, ,,
1936	..	1454	374 ,, ,, ,, ,,
1937	..	1472	219 ,, ,, ,, ,,
1938	..	1431	210 ,, ,, ,, ,,

The deficient diet of the average native is the cause of this high mortality. Rice and fish, with small amounts of vegetables, constitute the staple diet of the Brunei Malay, and all too frequently the rice is of the polished variety. Moreover, it is a Brunei custom for women to be put on to a severely restricted diet after confinement, although there is evidence that this practice is now much less common than formerly. Thus it is not surprising that most women are unable to feed their babies satisfactorily. Unfortunately the native's methods of artificial feeding are still more unsatisfactory. A common food to give young infants is a paste of rice flour and water. The milk that is given is the cheapest brand of condensed milk diluted till it is little more than coloured water. If the child does not thrive the mother (or more usually the grand-mother) decides that the milk is too strong and dilutes the mixture still further. It is, therefore, not uncommon to see extreme states of marasmus, as for example, a child of twelve months weighing 8½ lbs., whilst it is the exception to see a well nourished infant in the kampongs. Poverty and ignorance are the causes of this state of affairs and this department is working hard to combat the latter. In the writer's opinion, however, a material lowering of the infant mortality can only be brought about by improving the agricultural resources of the country so that there is available plentiful and cheap supplies of unpolished rice, vegetables, fruit, etc. Until the diet of the women is improved they will be unable to feed their babies satisfactorily, whilst the average native with a family has not the money to provide sufficient artificial milk of even the cheapest brand to maintain the vitality of a growing child.

No welfare work is yet possible outside the Brunei area due to lack of trained staff. Arrangements have, however, been made to send a girl to Singapore for training as health nurse in order that a centre similar to the Brunei Clinic can be set up in Kuala Belait.

The maternity service continues to be popular and practically all births in the Brunei area are attended by Government midwives. Altogether 540 births were attended by the department compared with 501 in 1937, and for the second year in succession there were no maternal deaths.

In the rest of the State where, for the most part, no midwifery service is available, fifteen deaths were recorded as due to pregnancy, childbirth, etc.

Details of maternity and infant welfare work are given at Appendix *III*.

V.—PRISONS

One case of beri beri occurred at the Kuala Belait prison. As a result of this case the scale of diet for prisoners has been amended by substituting native rice for the imported variety and by adding beans and extra vegetables. Apart from this case the health of the prisoners was good.

VI.—PUBLIC HEALTH

(*a*) HOUSING

In the main centres of population, at Brunei, Kuala Belait and Tutong, Sanitary Boards control all matters concerning housing, sanitation, etc. The housing in these areas is satisfactory, save in the case of native houses, which have little or no amenities for sanitation and disposal of rubbish.

The native house is built of plank or kajang walls with attap-thatched roof, and is raised on piles about five feet from the ground. The floors consist of separated lats of split bamboo or nibong, and provide an effective ventilation. These huts usually consist of two large rooms with a kitchen behind, and they may house twenty or more persons. There is usually no provision for the drainage of waste water, latrines are built over any nearby ditch, and the surroundings are consequently offensive to sight and smell.

In the rural areas, where the Kedayans are found, the houses are of similar design but smaller. It is no uncommon sight to see a party of Kedayans, after sawing through the piles supporting a house, carry it bodily to a new site perhaps a mile away.

In the town of Brunei, but outside the Sanitary Board area, is the famous river town. For countless generations most of the Malay population has lived here. The houses are built on piles set in a broad sweep of the Brunei river. Overcrowding is still more marked here than in the land kampongs. Excreta and rubbish are disposed of directly into the river. The river is tidal so that all rubbish is carried away with each ebb tide. Formerly all the Brunei Malays lived here or in similar river villages, but more and more are now settling on the land.

In the upper reaches of the rivers, where are found the Dusuns. Muruts and Dayaks, it is the custom for each small village to live in one long communal house. These huts may house two hundred or more persons.

(*b*) SANITATION AND REFUSE DISPOSAL

In the Sanitary Board areas the night soil is collected in buckets and dumped into a convenient tidal river. The kampong houses on land remain a problem. Wherever suitable, bored hole latrines are provided by the Medical Department, and twelve of these were bored during the year. A growing number of houses in Brunei and Kuala Belait have their own water borne sanitation.

Street and domestic refuse is collected and disposed of by scavenging coolies in the three main centres. In Brunei and Kuala Belait the refuse is incinerated whilst in Tutong it is disposed of into the river.

(*c*) WATER SUPPLY

In Brunei the river population obtains its water from a number of hill streams *via* small gauge pipes overhanging the river. The town supply is obtained from a small reservoir a mile and a half away. The catchment area of this reservoir is not satisfactory as it is planted with rubber, and bacteriological analysis of the water shows that contamination probably does occur. It is therefore proposed to construct an up to date purification plant incorporating sedimentation tanks, pressure filters and chlorinating apparatus.

By an agreement between the British Malayan Petroleum Company and the Government, Kuala Belait obtains its water from the Company.

Tutong is the only other centre having a piped water supply.

Elsewhere water is obtained from shallow wells and streams.

(*d*) FOOD ANIMALS

All cattle, pigs, etc. slaughtered in Brunei and Kuala Belait are inspected before and after death by sanitary inspectors. During the year 1679 pigs, 423 buffaloes, 59 cattle and 103 goats were slaughtered. Four pigs were rejected for slaughter on account of disease.

The slaughter houses in Brunei are unsatisfactory and are to be replaced by more modern buildings.

(*e*) ANTI-MALARIAL MEASURES

Regular anti-malarial work is only possible at Brunei and Kuala Belait and both these places are kept free from the disease. In Brunei the area of control was extended during the year to include several places outside the Sanitary Board area and 3,449 feet of new earth drains were constructed and 1,023 gallons of oil were used. In Kuala Belait the work is in hand of the Assistant Resident who acts on the advice of the Oil Company's Medical Officer. The total cost of anti-malarial works in these two places was $5,803.52.

In rural parts of the State the distribution of free quinine is the only practical measure that can be carried out.

VII.—PREVAILING DISEASE

(*a*) MALARIA

Seven hundred and sixty three cases of malaria were treated throughout the State by this Department compared with 458 cases in 1937. The increase in figures this year is chiefly due to the extension of travelling dispensary services which was brought about towards the end of 1937. Eighty-two cases were admitted to Government hospitals with one death. One mild case of blackwater fever occurred. The main centres are kept free from malaria. There is also comparatively little malaria on the various rubber estates but it is exceedingly common in the rice growing areas. The commonest apophelines found in the rice fields are A. kochi, A. barbirostris and A. leucosphyrus.

A. maculatus was discovered breeding on two occasions in a small stream just outside the town of Brunei. This is the first time that this anopheline has been reported in Brunei, and it is unlikely that it is an important vector in the State.

Mosquito returns are given in Appendix *VII*. All school children are examined annually for enlarged spleens and treatment is given where necessary. Spleen rates are given at Appendix *IV*.

The rates vary from nil to 50 per cent. All rates higher than 10 per cent. were obtained from schools in padi growing areas. The rate for school children throughout the State was 4.19 per cent.

(*b*) HELMINTHS

Roundworn infection is exceedingly common. All school children are examined annually and mass treatment is usually given for ascaris. Mass treatment cannot, however, have any effect on lowering the incidence of this disease until the sanitary arrangements of the native population improve.

Hookworm is much rarer, and was only found in 1.54 per cent. of specimens.

Figures are given at Appendix *IV*.

(*c*) DYSENTERY AND DIARRHOEA

There were in all ten cases of dysentery admitted to hospital compared with five in 1937. Of these, seven were of bacillary and three were of amœbic type. It is surprising that bacillary dysentery is not more prevalent considering the primitive methods of sanitation in the kampongs. Infantile diarrhœa accounted for eight admissions. There were no deaths.

(*d*) DIPHTHERIA

During the month of November an outbreak of diphtheria occurred in Kuala Belait originating in the Oil Company's cooly lines. This was of a mild nature and there was no mortality. Altogether fifteen clinical cases were confined to hospital, but on mass throat swabbing and culture a further thirty five persons were found to be presumptive carriers. Thanks to the prompt measures adopted by the Company Medical Staff the epidemic subsided quickly.

(*e*) VENEREAL DISEASE

Gonorrhœa of a mild type is exceedingly common although the hospital returns do not show many cases. The disease, however, causes the average native so little inconvenience that he rarely comes up for treatment. Complications are uncommon; two cases of ophthalmia were seen, one in an infant and one in an adult.

Syphilis, on the other hand, is rare, and the only cases seen had contracted the disease outside the State.

(*f*) TUBERCULOSIS

Tuberculosis is prevalent especially amongst the Chinese. Nineteen cases were treated in hospital during the year with two deaths. The pulmonary form accounted for sixteen of the cases. The disease is usually advanced when the patient offers himself for treatment and the prognosis is almost invariably very bad.

(g) DEFICIENCY DISEASES

The poor diet of the majority of the population is, in the writer's opinion, the most important single cause of ill-health in the State. It's relation to the high infant mortality has already been stressed. Forty-nine cases in the Brunei hospital were admitted for nutritional disorders of one sort or another representing 8.6 per cent. of the total admissions. Of this total twenty-eight cases were suffering from beri-beri and three from advanced states of vitamin A deficiency.

(h) MENTAL DISEASES

There are no proper facilities for the care of mental patients in the State, and most cases are sent to Singapore. There were, on an average, seven cases maintained in the Singapore Mental Hospital throughout the year and the cost to the State amounted to $825.85.

In addition eight cases of mental disorder were treated in Brunei Hospital.

(i) OTHER DISEASES

Three cases of filariasis were seen and one case showed F. bancrofti in his blood. Two of the cases came from the Berakas area a few miles from Brunei Town.

There are at present in the State two known lepers, both Chinese. They are advanced cases and are housed in a separate ward in the Brunei Hospital. There were no new cases during the year.

VIII.—VITAL STATISTICS

The estimated population of the State on 31st December was 37,868 as against 35,963 in 1937. These figures are probably too high. Births totalled 1,431 and deaths 833 giving a birth rate of 37.70 per mille and a crude death rate of 22.00 per mille. In 1937 the birth rate was 40.09 and the crude death rate 21.47. The infant mortality rate was 210 per thousand live births compared with the corresponding figure of 219 in 1937.

Tables 2 and 4 of Appendix *V* show births and deaths by races.

Registration is probably fairly complete and the figures for births and deaths can be regarded as reasonably accurate.

Table 3 in Appendix *V* showing deaths from principal causes, is, however, quite unreliable as less than 10 per cent. of deaths are certified by medical practitioners.

IX.—ESTATES, ETC.

There are four European estates in the country, and innumerable small native holdings. Records are only available of European estates where regular inspections are carried out. The general health during the year was good. There is surprisingly little malaria. In the past the chief scourge has been beri-beri, but this year no new cases were reported. This improvement has been brought about by ensuring regular supplies of fresh foodstuffs and kampong rice to labourers on isolated estates. To facilitate the obtaining of such supplies

Section 185 of the Labour Code was amended so that food credits could be granted to labourers in respect of fish, meat and vegetables in addition to rice and curry stuffs.

Estate labour consists almost entirely of Brunei natives, and is for the most part non-resident. The housing conditions of resident labour is satisfactory. Outlying estates each have their own dresser and small hospital. Serious cases are sent into Brunei. Estates near the town of Brunei make use of the Government hospital.

The largest employer of labour is the British Malayan Petroleum Company at Kuala Belait. This Company pays high wages and provides excellent housing conditions and other amenities for its labour. It also maintains a well equipped hospital in charge of a Medical Officer. An infant welfare centre was recently inaugurated for the benefit of the employees.

X.—METEOROLOGY

The climate is of the tropical type, and is characterised by a constant moist heat. The heat is usually tempered with a slight breeze, and the temperature rarely exceeds 90° F the usual daily range being between 76° F—86° F. The annual rainfall is high and varies from 100 inches or more at the coast to over 200 inches in certain parts of the interior. The highest rainfall during 1938 was at Batu Apoi estate where 257.92 inches were recorded.

There are no well defined seasons, but the rainfall is heaviest from October to the middle of January during the period of the north-east monsoon.

O. E. FISHER,
Medical Officer,
Brunei.

MEDICAL AND HEALTH DEPARTMENT,
BRUNEI, 23*rd February,* 1939.

APPENDIX *I*

STAFF OF THE MEDICAL DEPARTMENT, 1938

(1) Medical Officer
(2) Dresser, Grade I
(3) Dresser, Grade II, three
(4) Dresser, Grade III, six
(5) Probationer Dresser, one
(6) Clerk
(7) Sanitary Inspector
(8) Mosquito Collector
(9) Health Nurse
(10) Staff Nurse
(11) Probationer Nurse, three
(12) Midwife
(13) Apprentice Midwife
(14) Male Attendants, five
(15) Female Attendants, three
(16) Peon
(17) Cooks, three
(18) Gardeners, two

APPENDIX *II*

	Whole State		*Medical Dept.*	
	$	*c.*	$	*c.*
Total Revenue ..	1,179,978	96	3,088	93
Total Expenditure ..	718,988	59	47,466	45

MEDICAL DEPARTMENT EXPENDITURE, 1938

	$	c.
A.—Personal Emoluments	23,610	93
B.—Annually Recurrent.		
Clothing and Laundry	668	73
Hospital Diets	2,972	57
Maintenance of Lunatics and Lepers ..	1,295	85
Contingencies	411	32
Medicine and Instruments	5,619	91
Transport (including Travelling Dispensary)	1,621	68
Conveyance Allowance	600	00
Payment for services rendered by the British Malayan Petroleum Co. Hospital, Belait ..	3,587	93
Health Work	3,774	90
Hospital Conservancy	326	70
II.—Special Expenditure.		
Special Equipment	2,765	93
Remuneration for lectures (unprovided) ..	210	00
Total ..	47,466	45

APPENDIX *III*

TABLE 1

Annual Return of the Infant Welfare Centre for the year 1938

Diseases	*No. of cases*
Infectious disease:	
(*a*) Malaria (all forms)	4
(*b*) Yaws (all forms)	5
(*c*) Chicken pox	4
(*d*) Dysentery:	
(1) Amœbic	1
(2) Unclassified	1
(*e*) Measles	1
Nutritional disorders	88
Anæmia	1
Ear, eye, nose and throat:	
(*a*) Conjunctivitis (all forms)	28
(*b*) Tonsillitis	3
(*c*) Otorrhœa	14
(*d*) Ophthalmia neonatorum	1
Respiratory disease	105
Gastro intestinal disorders	102
Helminthic infection:	
(*a*) Ascariasis	105
(*b*) Oxyuriasis	24
(*c*) Ankylostomiasis	1
Violence (all forms)	28
Unclassified	1,441
Total	1,957
Total number of attendances	7,567

APPENDIX *III—continued*

TABLE 2

Record of Government Maternity Cases for 1938

Total number of maternity cases attended by Government nurses and midwives	540
Number of deliveries in hospital	26
Number of deliveries in home	514
Full term live births	524
Premature live births	4
Full term still births	7
Premature still births	9
Pairs of twins	4
Average weight of babies at birth	6¾ lbs.
Malformations (all forms)	5
Ante-natal cases	115
Diseases occurring in ante-natal period:	
(*a*) Anæmia	3
(*b*) Asthma	1
(*c*) Albuminuria	3
(*d*) Beri beri	11
(*e*) Eclampsia	1
(*f*) Hydramnios	1
(*g*) Malaria	2
(*h*) Venereal disease:	
(1) Gonorrhœa	1
(2) Syphilis	1
Induction of labour	1
Forceps deliveries	1
Breech deliveries	1
Complications of labour:	
(*a*) Ante partum hæmorrhage	1
(*b*) Post partum hæmorrhage	6
(*c*) Prolonged third stage	1
Diseases of puerperium:	
(*a*) Mastitis	1
Maternal deaths	nil

TABLE 3

Table of Nationality of Maternity Cases

Malays	479
Chinese	53
Kedayans	2
Dusuns	3
Indians	2
Eurasians	1
Total	540

APPENDIX *IV*

Table showing the results of Spleen and Stool Examination of School Children in 1938

Place	Number examined	Palpable Spleen	Spleen Rate %	Number of Stools examined	Ascaris	Infection Rate %	Ankylostoma	Infection Rate %
Brunei ...	426	8	1·88	381	207	54·33	4	1·05
Gadong ...	20	10	50·00	21	13	61·90	7	33·33
Berakas ...	35	4	11·43	37	23	62·16	3	8·01
Kilanas ...	33	6	18·18	33	24	72·73	1	3·03
Sengkurong ...	38	7	18·42	38	28	73·68	4	10·53
Temburong ...	23	...	...	23	14	60·87	...	...
Labu ...	38	1	2·63	27	12	44·44	...	...
Muara ...	60	6	10·00	64	53	82·81	...	...
Tutong ...	78	3	3·85	75	53	70·67	...	...
Penanjong ...	26	...	..	22	19	86·36	...	...
Tumpuan Ogas ...	25	...	...	25	21	84·00	...	...
Tanjong Maya ...	57	1	1·75	69	50	72·46	...	...
Lubok Pulau ...	18	...	...	22	15	68·18	...	...
Okong ...	23	...	...	34	30	88·24	...	...
Kuala Belait ...	242	...	...	187	96	51·34	...	...
Labi ...	38	...	...	34	33	97·06	...	...
Bukit Sawat ...	28	5	17·86	17	13	76·47	...	...
Kuala Balai ...	13	...	...	8	3	37·50	...	...
Seria ...	82	...	...	80	47	58·75	...	...
Kuidang ...	34	5	14·70	39	21	53·85	...	...
Total ...	1,337	56	4·19	1,236	775	62·70	19	1·54

APPENDIX *V*

VITAL STATISTICS—TABLE 1

Estimated Population with Birth and Death Rates

Year	Population	Births	Deaths	Birth rate per mille	Death rate per mille
1934	32,971	1,306	1,237	39·61	37·51
1935	33,732	1,475	802	43·70	23·78
1936	34,016	1,454	1,155	42·74	33·95
1937	35,963	1,472	722	40·09	21·47
1938	37,868	1,431	833	37·79	22·00

APPENDIX V—*continued*

TABLE 2

Births Registered according to Sex and Nationality

Europeans		Eurasians		Chinese		Malays		Indians		Native Bornean Races other than Malays		Others		Total		Total
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
..	..	3	2	99	98	344	358	2	2	251	267	5	..	704	727	1,431

TABLE 3

Deaths from Principal Causes, year ending 31st December, 1938

Diseases	*Male*	*Female*	*Total*
Malaria	3	1	4
Meningitis	3	—	3
Tetanus	1	1	2
Enteric fever	—	—	—
Dysentery	5	3	8
Septicæmia	—	1	1
Tuberculosis of respiratory system	3	2	5
Other forms of tuberculosis ..	—	—	—
Leprosy	—	—	—
Syphilis	—	—	—
Ankylostomiasis	—	—	—
Fever unspecified	2	5	7
Cancer	2	1	3
Beri beri	6	1	7
Diseases of the heart	2	1	3
Other diseases of circulatory system ..	1	1	2
Diabetes	1	—	1
Pneumonia (all forms)	5	1	6
Other diseases of respiratory system ..	6	1	7
Diarrhœa and enteritis	9	6	15
Other diseases of digestive system ..	7	5	12
Convulsions	43	30	73
Diseases of nervous system and sense organs	1	—	1
Diseases of genito urinary system (non-venereal)	4	—	4
Diseases of pregnancy, child-birth and puerperal state	—	15	15
Premature birth and disease of early infancy	1	1	2
Old age	45	56	101
Violence (all forms)	6	2	8
Other causes (including unknown) ..	284	259	543
	440	393	833

APPENDIX *V—continued*

Table 4

Deaths grouped according to Age, Sex and Nationality

Deaths by Age Groups	Sex	Europeans	Eurasians	Chinese	Malays	Indians	Native Bornean Races other than Malays	Others	Total
0	M.	...	...	2	13	...	15	1	31
	F.	...	...	4	7	...	18	1	30
4 Weeks ...	M.	...	...	4	61	...	12	1	78
	F.	...	...	6	24	...	10	...	40
3 Months ...	M.	...	...	3	26	...	10	...	39
	F.	...	...	2	24	...	8	...	34
6 ,, ...	M.	...	...	2	18	...	5	1	26
	F.	...	...	1	10	...	11	..	22
1 Year ...	M.	...	...	2	21	...	25	...	48
	F.	...	...	1	17	...	23	...	41
5 Years ...	M.	...	...	2	6	...	4	1	13
	F.	...	...	1	8	...	9	...	18
10 ,, ...	M.	...	...	...	2	...	7	...	9
	F.	...	...	1	2	...	2	...	5
15 ,, ...	M.	...	...	...	5	...	3	...	8
	F.	...	...	1	3	...	6	1	11
20 ,, ...	M.	...	...	2	6	...	3	...	11
	F.	...	...	...	11	...	5	...	16
25 ,, ...	M.	...	...	4	6	...	7	1	18
	F.	...	...	1	5	...	5	...	11
30 ,, ...	M.	...	...	1	7	...	8	...	16
	F.	1	...	3	9	...	13	...	26
35 ,, ...	M.	...	...	1	2	1	8	...	12
	F.	...	...	...	8	...	12	...	20
40 ,, ...	M.	...	...	1	6	...	9	1	17
	F.	...	...	2	3	...	5	...	10
45 ,, ...	M.	...	...	6	2	...	7	...	15
	F.	...	...	...	3	...	8	...	11
50 ,, ...	M.	...	...	3	4	...	9	...	16
	F.	...	...	...	6	...	13	...	19
55 ,, and over ...	M.	...	1	9	33	...	38	2	83
	F.	...	...	1	52	...	26	...	79
Total Deaths ...	M.	...	1	42	218	1	170	8	440
	F.	1	...	24	192	...	174	2	393
Total Deaths ...	M.F.	1	1	66	410	1	344	10	833

Table 5

Infantile Mortality by Months

Jan.		Feb.		Mar.		April		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Total		Total Births	Rate per 1,000 births
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
22	14	23	18	17	17	14	3	20	6	15	11	19	15	11	7	10	8	7	10	4	7	12	10	174	126	1,431	210

APPENDIX *V—continued*

TABLE 6

Deaths Registered as regards Certifications

Certified by Medical Practitioners	68
Certified by Registering Officers after death ..	222
Uncertified	543
Total ..	833

APPENDIX *VI*

LABORATORY RETURNS 1938

	Brunei	*Tutong*	*Temburong*
(1) Blood:—			
A Films:—			
(*a*) Benign tertian ..	78	14	3
(*b*) Quartan	25	1	—
(*c*) Sub-tertian	101	5	1
(*d*) Mixed infection ..	3	—	—
(*e*) Filaria bancrofti ..	1	—	—
(*f*) Negative	1,090	103	46
Total ..	1,298	123	50
B Blood counts	279	—	—
(2) Stool:—			
(*a*) Ankylostoma duodenale	143	1	4
(*b*) Ascaris lumbricoides ..	723	413	28
(*c*) Mixed A.L.O. and A.D.O.	88	3	—
(*d*) T. trichiura ..	95	6	7
(*e*) Strongyloides stercoralis	75	—	1
(*f*) Trichomonas hominis ..	1	—	—
(*g*) Entamœba hystolitica ..	3	—	—
(*h*) Hymenolepis nana ..	2	—	—
(*i*) Blood and pus cells ..	22	1	2
(*j*) Charcot-Leyden crystals	1	—	—
(*k*) Bacteria and Mucus ..	18	—	—
(*l*) Negative	642	231	12
Total ..	1,813	655	54

APPENDIX *VI—continued*

LABORATORY RETURNS 1938—*continued*

	Brunei	*Tutong*	*Temburong*
(3) Sputum:—			
(*a*) Tubercle bacilli ..	160	2	1
(*b*) Negative	433	2	8
Total ..	593	4	9
(4) Urine:—			
(*a*) Blood, pus and organisms	481	—	—
(*b*) Casts (all forms) ..	57	—	—
(*c*) Chemical test (various)	614	40	5
(*d*) Urea concentration ..	5	—	—
(*e*) Negative	1,067	—	25
Total ..	1,224	40	30
(5) Bacteriological examination of smears:—			
(*a*) Gonococci	25	—	1
(*b*) Bacilli of Morax ..	51	—	—
(*c*) Koch Weeks bacilli ..	82	—	—
(*d*) Leper bacilli ..	5	—	—
(*e*) Other bacteria ..	95	—	—
(*f*) Negative	120	—	—
Total ..	378	—	1
(6) Cerebro-spinal fluid smears:—			
(*a*) Meningococci ..	1	—	—
(*b*) Cell counts ..	4	—	—
(*c*) Negative	2	—	—
Total ..	7	—	—

APPENDIX *VII*

TABLE 1

Record of Anopheline Larva within the Sanitary Board Area, Brunei

Months	A. kochi	A. barbirostris	A. umbrosus	A. separatus	A. leucosphyrus	A. tesselatus	A. novumbrosus	A. hyrcanus	A. baezai	A. annularis	Total
January ...	214	85	120	140	25	12	2	...	...	...	598
February ...	371	186	54	...	33	...	...	...	...	...	644
March ...	277	163	..	...	...	26	...	38	...	...	504
April ...	391	225	49	...	52	29	...	21	...	...	767
May ...	512	340	...	44	...	...	...	...	...	...	896
June ...	204	145	83	14	...	15	...	...	...	...	461
July ...	238	100	74	...	46	57	...	38	...	...	553
August ...	124	167	15	64	...	29	...	...	...	...	399
September...	96	252	80		34	...	...	...	...	...	462
October ...	18	147	31	45	...	...	...	...	20	...	261
November ..	76	105	53	110	...	...	...	...	7	40	391
December ...	96	88	45	41	...	...		..	...	...	270
Total	2,617	2,003	604	458	190	168	2	97	27	40	6,206

TABLE 2

Breeding places of Anopheline Mosquitoes within Sanitary Board Area, Brunei

Months	Drains	Wells	Pools	Swamps	Holes	Seepages	Ponds	Total
January ...	5	3	9	1	2	...	...	20
February ...	5	2	3	1	2	...	...	13
March ...	5	2	3	...	2	1	...	13
April ...	6	3	6	...	2	...	...	17
May ...	4	5	2	1	...	...	...	12
June ...	3	2	5	2	...	..	...	12
July ...	2	3	5	1	2	...	1	14
August ...	2	7	4	...	...	...	...	13
September ...	3	2	4	1	2	...	1	13
October ...	1	2	8	...	...	...	...	11
November ...	2	5	8	...	1	...	1	17
December ...	1	3	2	2	1	1	1	11
Total ...	39	39	59	9	14	2	4	166

APPENDIX *VII—continued*

TABLE 3

Record of Anopheline Larva outside the Sanitary Board Area, Brunei

Months	A. kochi	A. barbirostris	A. umbrosus	A. separatus	A. leucosphyrus	A. tesselatus	A. hyrcanus	A. karwari	A. maculatus	A. philippinensis	Total
January ...	1,045	182	...	...	72	...	...	..	...	...	1,299
February ...	297	320	62	...	110	...	...	...	...	...	789
March ...	666	424	24	...	237	...	32	...	...	...	1,383
April ...	312	606	35	...	249	...	49	...	...	...	1,251
May ...	655	396	...	...	100	...	...	...	...	..	1,151
June ...	140	401	94	68	79	57	...	...	...	...	839
July ...	277	205	24	...	42	...	...	...	...	...	548
August ...	248	158	74	30	90	...	...	...	...	...	600
September ...	288	351	67	65	64	35	35	...	...	...	905
October ...	142	277	38	62	40	...	...	5	15	16	595
November ...	323	126	49	...	35	...	...	...	...	...	533
December ...	158	100	4	31	21	...	...	...	8	...	322
Total ...	4,551	3,546	471	256	1,139	92	116	5	23	16	10,215

TABLE 4

Breeding places of Anopheline Mosquitoes outside the Sanitary Area, Brunei

Months		Drains	Wells	Pools	Swamps	Holes	Seepages	Ponds	Streams	Padi fields	Total
January	...	2	3	4	1	5	...	...	...	...	15
February	...	1	4	6	1	5	1	...	...	...	18
March	...	3	6	8	1	4	...	...	...	...	22
April	...	4	1	5	...	5	...	2	...	...	17
May	...	4	7	5	...	2	...	...	...	...	18
June	...	4	2	9	...	...	...	...	...	...	15
July	...	6	1	4	...	2	...	...	...	..	13
August	...	4	4	7	...	3	...	...	...	...	18
September	...	7	5	5	1	4	3	...	...	...	25
October	...	6	1	4	5	...	...	...	3	...	19
November	...	1	5	3	1	2	6	...	...	1	19
December	...	...	3	3	1	2	4	...	2	1	16
Total	...	42	42	63	11	34	14	2	5	2	215

APPENDIX *VII—continued*

TABLE 5

Record of Anopheline Larva Kuala Belait Area

Months	A. separatus	A. bæzai	A. kochi	A. umbrosus	A. barbirostris	A. albatæniatus	A. novumbrosus	A. tesselatus	A. brevipalpis	A. ludlowi	A. hyrcanus	Total
January	18	31	...	...	...	...	...	26	...	...	...	75
February	20	15	...	...	...	...	...	...	...	...	...	35
March	12	54	18	99	1	1	...	17	...	...	...	202
April	76	50	...	4	...	...	2	...	12	...	...	144
May	18	...	8	...	6	...	16	54	118	20	...	240
June	29	61	...	7	14	...	...	40	73	...	2	226
July	22	38	8	13	...	...	...	74	119	...	...	274
August	46	22	15	...	...	...	1	31	61	38	...	214
September	36	19	...	25	...	...	10	23	121	...	5	239
October	40	30	...	4	...	...	...	12	65	...	...	151
November	76	2	...	18	12	...	14	9	95	...	...	226
December	100	38	...	...	...	...	1	...	80	...	...	219
Total	493	360	49	170	33	1	44	286	744	58	7	2,245

TABLE 6

Breeding places of Anopheline Mosquitoes in Kuala Belait Area

Months	Drains	Swamps	Wells	Pools	Streams	Holes	Total
January	3	4	...	...	...	...	7
February	...	1	2	...	..	...	3
March	1	5	3	3	...	...	12
April	...	5	1	...	3	..	9
May	4	6	2	...	5	...	17
June	1	12	1	1	1	...	16
July	1	6	1	4	4	...	16
August	2	6	2	1	6	...	17
September	2	4	2	...	8	1	17
October	1	8	...	1	5	..	15
November	3	11	4	2	...	...	20
December	4	17	4	2	3	...	30
Total	22	85	22	14	35	1	179

APPENDIX *VIII*

Annual Return of Sick admitted to Government Hospital, Brunei, Tutong and Temburong

TABLE 1	BRUNEI								
Class	Specific Disease	Remained	Admitted	Total	Discharged	Transferred	Died	Absconded	Remaining
Infectious Diseases ...	Malaria fever, b.t. ...	...	16	16	16	...	...	...	...
	Malaria fever, s.t. ...	..	43	43	41	...	1	...	1
	Malaria fever, quartan ...	1	6	7	7	...	..	...	...
	Malaria fever, double infection	...	1	1	1	...	...	...	...
	Malaria fever (unclassified)	...	2	2	2	...	...	...	...
	Cerebral malaria, s.t. ...	...	1	1	1	...	...	...	...
	Blackwater fever ...	...	1	1	1	...	...	...	...
	Chronic malaria ...	1	6	7	6	...	...	...	1
	Influenza	...	14	14	14	...	...	...	...
	Typhoid fever ...	...	2	2	2	...	...	...	...
	Paratyphoid fever "C" ...	...	1	1	1	...	...	...	...
	Dysentery bacillary ...	...	6	6	6	...	...	...	...
	Dysentery amoebic ...	...	1	1	1	...	...	...	...
	Meningitis		2	2	...	...	2	...	...
	Dengue	...	2	2	2	...	...	...	...
	Primary yaws ...	...	1	1	1	...	...	...	...
	Secondary yaws ...	...	1	1	1	...	...	...	...
	Filarial lymphangitis ...	...	2	2	2	...	...	...	...
	F. bancrofti ...	...	1	1	1	...	...	...	...
	Elephantiasis ...	...	1	1	1	...	...	...	...
	Leprosy	...	3	3	1	...	...	...	2
	Tetanus	...	1	1	...	...	1	...	...
	Tuberculosis of respiratory system	2	16	18	13	...	2	...	3
	Tuberculosis of central nervous system ...	...	1	1	1	...	...	...	...
	Tuberculosis of lymphatic system	...	2	2	2	...	...	...	...
General Disease ...	Avitaminosis ...	...	3	3	3	...	...	...	...
	Malnutrition ...	..	11	11	9	...	1	...	1
	Beri beri	1	24	25	25	...	...	...	...
	Infantile beri beri ...	...	1	1	1	...	...	...	...
	Secondary anæmia ...	...	2	2	2	...	..	...	...
	Diabetes mellitus ...	..	3	3	3	...	...	...	...
	Syncope	...	1	1	1	..	...	...	..
	Exophthalmic goitre ...	...	2	2	2	...	...	...	...
Nervous System ...	Epilepsy	...	5	5	4	...	...	...	1
	Dementia	...	2	2	2	...	...	...	...
	Senile dementia ..	1	..	1	...	...	...	...	1
	Hemiplegia	...	2	2	2	..	...	...	...
	Hysteria	...	1	1	1	...	...	...	...
	Neurasthenia ...	...	2	2	2	...	...	...	...
	Confusional insanity ...	...	1	1	1	.	...	...	...
	Psychosis	...	4	4	2	...	...	...	2
	Convulsions	...	1	1	1	...	...	...	...
	Coma	...	1	1	1	...	...	...	...
	Peroneal muscular atrophy	1	...	1	1	...	...	...	...
	Carried forward ...	7	199	206	187	...	7	...	12

APPENDIX *VIII—continued*

Table 1	Brunei								
Class	Specific disease	Remained	Admitted	Total	Discharged	Transferred	Died	Absconded	Remaining
	Brought forward ...	7	179	206	187	...	7	...	12
Circulatory System ...	Cardiac asthma ...	...	1	1	...	...	1	...	...
	Heart failure ...	...	4	4	2	...	2	...	...
	Mitral stenosis ...	...	1	1	1	...	...	...	...
	Toxic myocarditis ...	...	1	1	1	...	...	...	...
	Congenital heart disease	...	1	1	1	...	...	...	...
Ear, Eye, Nose and Throat ...	Corneal ulcer ...	1	4	5	5	...	...	...	...
	Conjunctivitis, B.M. ...	...	4	4	4	...	...	...	...
	Conjunctivitis, K.W. ...	...	11	11	11	...	...	...	...
	Otitis externa ...	...	2	2	2	...	...	...	...
	Otitis media ...	...	3	3	3	...	...	...	...
	Tonsillitis	...	2	2	2	...	...	...	...
	Sinusitis	...	2	2	2	...	...	...	...
	Bilateral cataract ...	...	1	1	1	...	...	...	...
	Conjunctivitis ...	...	1	1	1	...	...	...	...
	Stye ...	...	1	1	1	...	...	...	...
	Nasal polypus ...	...	1	1	1	...	...	...	...
	Ophthalmia ...	...	1	1	...	...	...	...	...
Respiratory System ...	Asthma	...	4	4	4	...	...	...	...
	Bronchitis	...	8	8	8	...	...	...	...
	Pulmonary fibrosis and emphysema ...	...	2	2	2	...	...	...	...
	Pulmonary abscess ...	...	2	2	...	...	1	...	1
	Pleurisy ...	...	3	3	2	...	...	...	1
	Pleural effusion ...	...	1	1	...	...	...	...	1
	Pneumonia	...	4	4	4	...	...	...	...
	Hemoptysis ...	1	2	3	3	...	...	...	...
Venereal Disease ...	Gonorrhœal arthritis ...	...	4	4	4	...	...	...	...
	Gonorrhœal conjunctivitis	...	1	1	1	...	...	...	...
	Gonorrhœal epididymitis	1	1	2	2	...	...	...	...
	Gonococcal cervicitis ...	1	1	2	1	...	...	...	1
	Infantile gonorrhœal ophthalmia	...	1	1	1	...	...	...	...
	Gumma of bone ...	...	1	1	...	...	...	...	1
	Secondary syphilis ...	...	2	2	2	...	...	...	...
	Syphilitic keratitis ...	...	1	1	1	...	...	...	...
Digestive System ...	Ascariasis	...	20	20	18	...	...	...	2
	Ankylostomiasis ...	...	27	27	25	...	...	...	2
	Mixed salivary gland tumour	1	...	1	1	...	...	...	...
	Submaxillary calculus ...	1	...	1	1	...	...	...	...
	Glossitis	...	1	1	1	...	...	...	...
	Dyspepsia	...	4	4	4	...	...	...	...
	Constipation ...	...	3	3	3	...	...	...	...
	Catarrhal jaundice ...	...	2	2	2	...	...	...	...
	Toxic jaundice ...	...	1	1	...	...	1	...	...
	Carcinoma of stomach ...	1	5	6	5	...	...	...	1
	Carried forward ...	14	341	355	320	...	11	...	18

APPENDIX *VIII—continued*

Table 1	**Brunei**								
Class	Specific Disease	Remained	Admitted	Total	Discharged	Transferred	Died	Absconded	Remaining
	Brought forward ...	14	341	355	320	...	11	...	18
Digestive System—*cont.*	Acute appendicitis with general peritonitis ...	...	2	2	...	...	2	...	...
	Sub-acute appendicitis ...	...	1	1	1	...	...	...	...
	Carcinoma of liver ...	1	1	2	1	...	1	...	...
	Gastro enteritis ...	...	8	8	7	...	...	...	1
	Fissure in ano ...	...	1	1	1	...	...	...	...
	Fistula in ano ...	...	1	1	1	...	...	...	..
	Alveolar abscess ...	...	3	3	3	...	...	...	...
	Pyloric stenosis ...	...	2	2	2	...	...	...	...
	Biliary colic ...	...	1	1	1		...	...	...
	Nervous dyspepsia ...	...	1	1	1	...	...	...	...
Genito-Urinary System	Para-phimosis ...	...	1	1	1	...	...	...	...
	Enlarged prostate ...	...	2	2	1	...	1	...	...
	Balanitis, phimosis ...	...	1	1	1	...	...	...	...
	Hæmaturia	...	2	2	2	...	...	...	...
	Urethral stricture ...	...	1	1	1	...	...	...	...
	Acute nephritis ...	...	1	1	1	...	...	...	...
	Chronic nephritis ...	...	2	2	2	...	...	...	...
	Circumcision ...	...	1	1	1	...	...	...	...
	Renal colic ...	...	1	1	1	...	...	...	...
Disease of Women ...	Amenorrhœa ...	...	1	1	1	...	...	...	...
	Menorrhagia ...	...	2	2	2	...	...	...	...
	Menophause ...	...	1	1	1	...	...	...	...
	Abortion	...	7	7	7	...	..	...	...
	Parturition	2	26	28	28	...	...	...	...
	P.P. Eclampsia ...	...	1	1	1	...	...	...	..
	Vomiting of pregnancy ...	...	1	1	1	...	...	...	...
	Toxaemia of pregnancy ...	...	1	1	1	...	...	...	...
	Ante partum hæmorrhage	...	1	1	1	...	...	...	...
	Carcinoma of uterus ...	1	...	1	1	...	...	..	...
	Caruncle of urethra ...	...	1	1	1	...	...	...	...
	Cervical erosion ...	...	2	2	2	...	...	...	...
	Antenatal observation ...	...	1	1	1	...	...	...	...
	Pregnant fibroid uterus ...	...	1	1	...	...	...	...	1
	Ovarian cyst ...	...	1	1	1		...	...	...
	Dermoid cyst of ovary ...	...	1	1	1	...	...	...	...
	Lacerated vagina ...	...	1	1	1	...	...	...	...
Bones and Joints ...	Osteomyelitis ...	...	1	1	1	..	...	...	...
	Dislocation of shoulder ...	...	1	1	1	...		...	...
	Necrosis of bone ...	...	1	1	1	...	...	...	...
	Simple fracture ...	...	9	9	9	...	...	...	...
	Compound fracture ...	...	1	1	1	...	...	...	...
	Carried forward ...	18	436	454	413	...	16	...	25

APPENDIX *VIII—continued*

TABLE 1	BRUNEI								
Class	Specific diseaes	Remained	Admitted	Total	Discharged	Transferred	Died	Absconded	Remaining
	Brought forward ...	18	436	454	413	...	16	...	25
Skin and Cellular Tissue	Abscess, boils, etc.	1	27	28	28	...	...	...	..
	Lymphadenitis	...	7	7	7	...	...	...	...
	Hare lip	...	1	1	1	...	...	...	...
	Rhematism	...	1	1	...	...		...	1
	Warts	1	...	1	1	...	...	...	...
	Tinea imbricata	1	4	5	5	...	...	...	...
	Exogenic dermatitis	1	1	2	2	..	...	...	...
	Exfoliative dermatitis	...	2	2	2	...	...	...	...
	Eczema	...	2	2	2	...	...	..	...
	Dermatitis herpetiformis	...	1	1	1	...	..	...	...
	Scabies	...	7	7	7	...	...	.	...
	Chronic perforating ulcer	...	1	1	1	...	...	...	...
	Epithelioma of check	...	1	1	1	...	...	...	...
	Dermoid cyst	..	1	1	1	...	...	...	...
	Ulcer	...	2	2	2	...	...	...	...
	Malignant glands of neck	...	1	1	1	...	...	...	...
	Suppurative bursitis	..	2	2	2	...	..	...	...
	Generalised pruritus	...	1	1	1	...	...	...	..
	Septic sores	...	5	5	5	...	...	...	...
	Cellulitis	...	3	3	3	...	...	...	...
	Oedema of leg	...	1	1	1	...	...	...	...
	Pyaemia	...	1	1		...	...	...	1
	Recurrent carcinoma of lip	1	...	1	1	...	...	...	...
External Cause ...	Sprain etc.	...	7	7	7	...	...	...	...
	Wound	...	18	18	17	...	...	...	1
	Gun shot wound	...	1	1	1	...	...	...	...
	Haematoma	...	1	1	1	...	...	...	...
	Bleeding following extraction	...	1	1	1	...	...	...	...
	Burns	...	2	2	1	...	1	...	...
	Assault	.	1	1	1	...	...	...	
	Ruptured spleen	...	1	1	...	...	1	...	...
	Centipede bite	...	1	1	1	...	...	...	...
Undefined Disease ...	Debility	1	2	3	3	...	...	...	...
	For feeding	1	5	6	6	...	...	...	...
	Pyrexia u.o.	...	10	10	10	...	..	...	..
	To accompany mother	...	3	3	3	...	...	...	...
	Observation	...	8	8	8	...	...	...	...
	Total ...	25	569	594	548	...	18	...	28

APPENDIX *VIII—continued*

TABLE 2	TUTONG								
Class	Specific Disease	Remained	Admitted	Total	Discharged	Transferred	Died	Absconded	Remaining
Infectious Disease ...	Malaria fever, b.t. ...	...	3	3	3	...	...	...	...
	Malaria fever, s.t. ...	...	2	2	2	...	...	...	...
	Mumps	...	1	1	1	...	...	...	...
	Influenza	...	3	3	3	...	...	...	...
	Yaws, secondary ...	...	3	3	3	...	...	...	...
Circulatory System ...	Myocarditis ...	...	1	1	...	1	...	...	...
Digestive System ...	Ankylostomiasis ...	...	1	1	1	...	...	...	...
	Ascariasis	...	1	1	1	...	...	...	...
Ear, Eye, Nose and Throat	Corneal ulcer ...	...	1	1	1	...	...	...	...
Skin and Cell. Tissues...	Abscess	...	1	1	1	...	...	...	...
	Eczema	...	2	2	2	...	...	...	...
	Tinea imbricata ...	1	10	11	10	...	..	...	1
Bones and Joints ...	Arthritis ...	...	1	1	1	...	...	...	...
	Simple fracture ...	...	2	2	...	2	...	...	...
Undefined Disease ...	Observation	1	...	1	...	1	...	...	...
	Total ...	2	32	34	29	4	...	...	1
TABLE 3	TEMBURONG								
Infectious Disease ...	Malaria fever(unclassified)	...	1	1	...	1	...	...	...
	Influenza	1	2	3	3	...	...	...	...
Circulatory System ...	Beri beri and heart failure	...	1	1	1	...	...	...	...
Respiratory System ...	Chronic bronchitis ...	...	1	1	1	...	...	...	...
	Pulmonary tuberculosis	..	1	1	..	1	...	...	...
Digestive System ...	Bacillary dysentery ...	...	1	1	1	...	...	...	...
Skin and Cell. Tissues ..	Tinea imbricata ...	...	1	1	1	...	...	...	...
	Eczema	...	1	1	1	...	...	...	...
	Abscess	...	1	1	1	...	...	...	...
	Ulcer	...	1	1	1	...	...	...	...
Venereal Disease ...	Gonorrhoeal epididymo-orchitis	...	1	1	1	...	...	...	...
External Causes ...	Wound	1	1	2	1	...	...	...	1
	Total ...	2	13	15	12	2	...	...	1

APPENDIX *IX*

RETURN OF OPERATIONS PERFORMED DURING 1938

Operations	*Number*	Result *Cured*	Result *Relieved*	*Died*
A.—General:				
Suture of wounds	118	118	—	—
Incision of suppuration	64	64	—	—
Circumcision	12	12	—	—
Removal of cysts etc.	25	24	1	—
Excision of cervical glands	2	2	—	—
Removal of sub-maxillary calculus	1	1	—	—
Removal of foreign body	6	6	—	—
Removal of mixed salivary gland-tumour	1	1	—	—
Removal of urethral calculus	1	1	—	—
Appendicectomy	1	—	—	1
Fissure in ano	1	1	—	—
Fistula in ano	1	1	—	—
Manipulation, etc. or fracture	6	6	—	—
Exploration chest, etc.	13	13	—	—
For hæmatoma	3	3	—	—
Skin graft	3	3	—	—
Amputation toes and fingers	2	2	—	—
Paracentesis abdominis	1	1	—	—
Lumbar puncture	10	—	10	—
Excision of lower jaw (osteomyelitis)	1	1	—	—
Sequestrectomy	2	2	—	—
Dislocation of shoulder	1	1	—	—
Osteomyelitis of radius	1	1	—	—
Hare lip repair	1	1	—	—
Cystoscopy	1	1	—	—
Supra pubic cystotomy	1	—	1	—
B.—Special:				
(1) Ear, nose and throat:—				
Nasal polypus	2	—	2	—
Tonsillectomy	1	1	—	—
(2) Gynæcological:—				
D. and C.	4	—	4	—
Induction of labour	2	2	—	—
Obstructed labour	1	1	—	—
A. P. H.	1	1	—	—
Ovariotomy	1	1	—	—
Laparotomy	1	—	1	—
(3) Dental:—				
Extraction	237	237	—	—
Alveolar abscess	2	2	—	—
Total	531	511	19	1

APPENDIX *X*

ANNUAL RETURN OF OUTPATIENTS, BRUNEI GOVERNMENT HOSPITAL, 1938

	Brunei	*Tutong*	*Temburong*
Infectious disease:			
(*a*) Malaria (all forms) ..	711	41	11
(*b*) Yaws (all forms) ..	61	10	56
(*c*) Chicken pox ..	1	—	—
(*d*) Mumps	2	3	1
(*e*) Typhoid fever ..	—	—	—
(*f*) Dysentery:—			
(1) Amœbic ..	3	—	—
(2) Bacillary ..	4	1	1
(*g*) Tuberculosis:—			
(1) Pulmonary ..	34	6	7
(2) Other ..	4	—	—
(*h*) Pneumonia (all forms)	3	—	—
(*i*) Dengue	1	—	1
(*j*) Filariasis	3	—	—
General disease:			
(*a*) Avitaminosis ..	13	—	—
(*b*) Beri beri	119	18	9
(*c*) Malnutrition ..	13	—	—
(*d*) Anæmia	597	16	27
Venereal disease:			
(*a*) Gonorrhœa (all forms)	34	—	—
(*b*) Syphilis (all forms) ..	9	—	—
(*c*) Other	3	—	—
Helminthic infection:			
(*a*) Ascariasis	1,278	997	88
(*b*) Ankylostomiasis ..	33	1	2
(*c*) Other	17	—	—
Respiratory system	1,487	299	214
Circulatory disease:			
(*a*) Myocarditis ..	6	—	—
(*b*) Heart failure ..	1	—	2
(*c*) Mitral stenosis ..	1	—	—
(*d*) Other	3	—	—
Gastro-intestinal disease:			
(*a*) Gastric ulcer ..	9	2	—
(*b*) Duodenal ulcer ..	5	—	—
(*c*) Other	2,044	588	213
Nervous system	411	105	69
Genito-urinary (non-venereal) ..	84	4	—
Carried forward ..	6,994	2,091	701

APPENDIX *X—continued*

ANNUAL RETURN OF OUTPATIENTS, BRUNEI GOVERNMENT HOSPITAL, 1938—*continued*

	Brunei	*Tutong*	*Temburong*
Brought forward	6,994	2,091	701
Disease of women:			
(*a*) Abortion	11	—	—
(*b*) Amenorrhœa	7	—	—
(*c*) Dysmenorrhœa	5	—	—
(*d*) Menopause	1	—	—
(*e*) Metrorrhagia	2	—	—
(*f*) Salpingitis	2	—	—
(*g*) Fibroid of uterus	1	—	—
(*h*) Other	56	—	—
Ear, eye, nose and throat disease	618	35	53
Violence (all forms)	1,779	206	211
Diseases of skin, etc., etc.	4,319	1,591	752
Total	13,795	3,923	1,717
Total number of attendances	25,056	4,905	2,350

APPENDIX *XI*

METEOROLOGY 1938

TABLE 1

Mean room Temperature at Brunei, Tutong and Temburong Hospitals

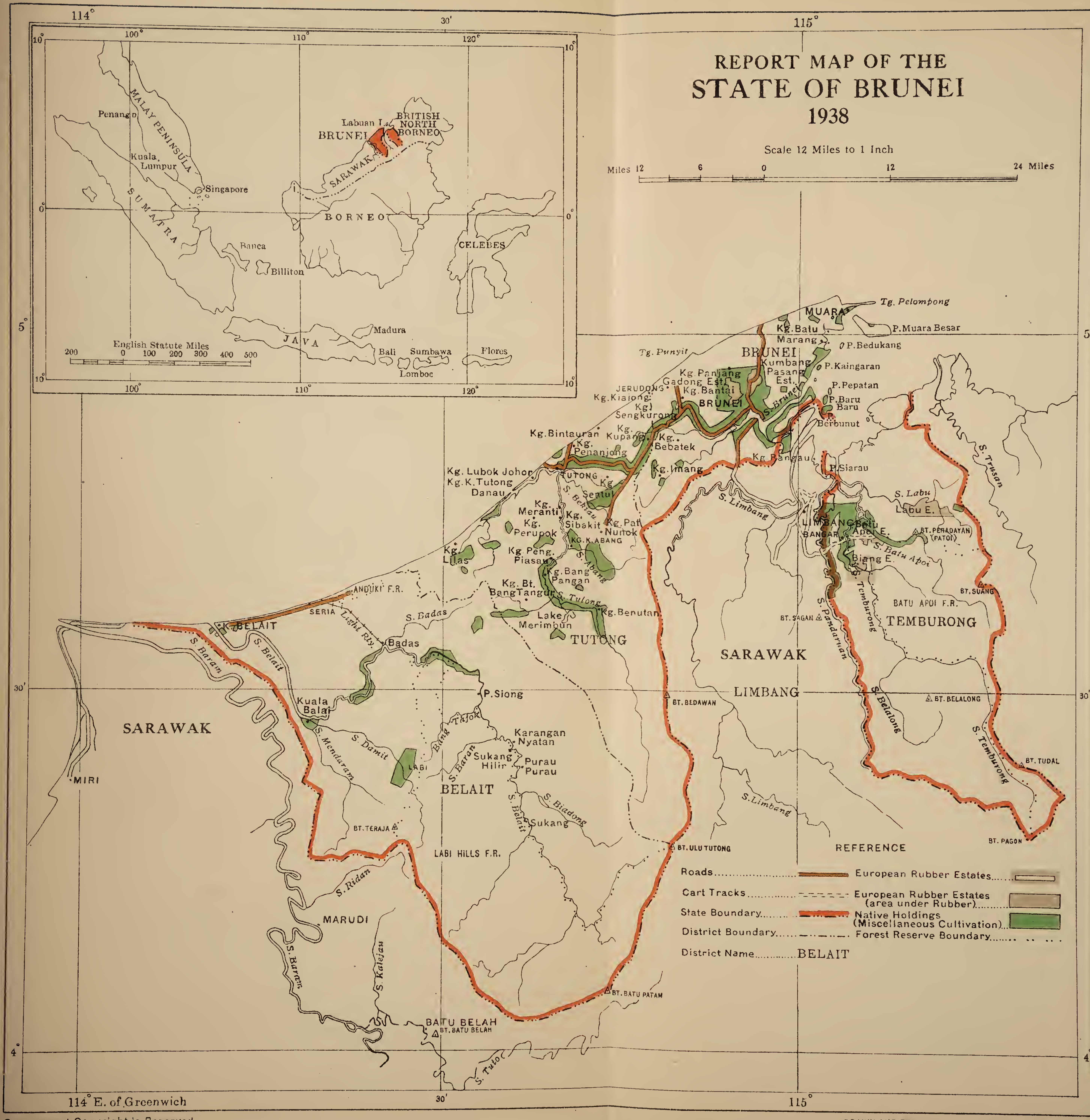
Month	BRUNEI			TUTONG			TEMBURONG		
	Maximum	Minimum	Range	Maximum	Minimum	Range	Maximum	Minimum	Range
January	85·16	75·81	9·35	83·91	75·00	8·91	84·16	74·35	9·81
February	85·89	75·00	10·89	85·53	74·67	10·86	85·39	73·57	11·82
March	87·48	75·13	12·35	85·91	74·71	11·20	82·97	74·03	8·94
April	87·87	75·97	11·90	87·67	75·06	12·61	83·20	75·77	7·43
May	87·97	75·94	12·03	85·91	75·09	10·82	85·26	76·58	8·68
June	88·73	75·37	13·36	86·90	74·61	12·29	84·60	76·10	8·50
July	88·48	75·52	12·96	86·91	74·31	12·60	85·87	76·61	9·26
August	87·32	75·48	11·84	85·54	74·54	11·00	86·45	76·35	10·10
September	88·16	75·66	12·50	86·60	74·94	11·66	87·46	75·56	11·90
October	87·26	75·21	12·05	86·49	74·64	11·85	87·03	74·93	12·10
November	85·60	74·82	10·78	85·33	74·60	10·73	85·40	75·06	10·34
December	85·19	74·26	10·93	84·11	74·42	9·69	86·00	75·54	10·46
Mean	87·09	75·35	11·74	85·90	74·71	11·18	85·32	75·37	9·94

APPENDIX *XI—continued*

TABLE 2

Monthly Rainfall at Nine Stations

Month	BRUNEI DISTRICT					TEMBURONG DISTRICT			BELAIT DISTRICT
	Govt. Hosp. Brunei Town	Subok	Gadong	Kumbang Pasang	Agricultural Station, Kilanas.	Labu	Biang	Batu Apoi	Kuala Belait (B.M.P. Company)
January	6·19	7·33	6·53	4·03	7·97	19·84	13·51	15·37	5·93
February	6·02	6·36	1·99	4·65	1·50	5·32	1·81	1·15	1·00
March	17·14	15·84	18·25	18·70	12·80	36·84	26·06	24·81	13·74
April	14·03	14·18	12·97	14·80	11·87	15·55	17·90	38·45	8·55
May	11·68	11·74	11·65	12·85	13·87	27·30	28·15	29·75	8·89
June	7·88	9·41	4·63	5·42	6·82	9·69	17·85	18·59	5·56
July	13·15	14·87	11·03	8·80	8·20	25·77	14·51	28·40	5·20
August	15·57	15·47	14·87	17·52	14·87	40·27	43·01	41·19	11·92
September	7·64	4·36	9·62	10·93	6·79	8·50	23·67	14·17	5·45
October	8·41	7·56	9·64	11·08	9·22	15·72	16·32	14·54	11·90
November	13·57	10·05	8·68	11·51	7·45	18·04	14·28	15·27	7·46
December	10·59	8·22	11·39	9·64	9·65	14·78	11·00	16·23	14·62
Total	131·87	125·39	121·25	129·93	111·01	237·62	226·07	257·92	100·22



REPORT MAP OF THE STATE OF BRUNEI 1938

Scale 12 Miles to 1 Inch

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